MONTANA DEPARTMENT OF AGRICULTURE

USING ZINC PHOSPHIDE RODENTICIDES EFFECTIVELY

Zinc phosphide baits is one alternative rodenticides for control of ground squirrels and prairie dogs since the cancellation of strychnine baits for control of these species. Zinc phosphide is a Restricted Use Pesticide and requires a license to purchase and apply.

Zinc phosphide has a distinctive odor and taste which is unpleasant to humans and probably ground squirrels and prairie dogs as well. Zinc phosphide baits are often not readily accepted by ground squirrels, prairie dogs or other rodents and control efforts may sometimes be erratic and ineffective.

When zinc phosphide is ingested it converts to poisonous phosphene gas. The phosphene gas dissipates from a carcass resulting in low secondary hazard to scavengers that may eat zinc phosphide-killed rodent carcasses. This is unlike strychnine which remains toxic until the ground squirrel or prairie dog carcass decomposes. The risk of primary poisoning to birds or livestock if they eat zinc phosphide baits is similar to, and in some cases greater, than strychnine.

Even in the presence of humidity in the air, zinc phosphide slowly converts to phosphene gas. An unventilated storeroom where zinc phosphide baits are stored will smell of phosphene gas when entered. Do not place zinc phosphide bait inside the passenger area of a vehicle when transporting the bait. Do not store zinc phosphide baits in areas of human occupation or where food or feed products are stored. The applicator should purchase only enough bait to cover the treatment area to avoid bait carry over. Bait should be handled no more than necessary to prevent the zinc phosphide from sloughing off the bait.

Zinc phosphide does not readily absorb through the skin and, therefore, it is not an effective cheek pouch poison. Actual ingestion is necessary for death to occur. Good acceptance of grains and quick consumption of the zinc phosphide bait will be necessary for effective results. Zinc phosphide baits should not be applied more than once a year and only at a time when acceptance of grains by the ground squirrels is good.

To obtain the best results with zinc phosphide baits the Montana Department of Agriculture recommends the following procedures.

1. Use baits formulated on oats. Baits formulated into pellets, corn or other baits are usually poorly accepted.

2. Time zinc phosphide bait application when acceptance of grain is good and when little green vegetation is present. For the Richardson ground squirrel, bait application after all the squirrels are out of hibernation but prior to spring green-up is usually the best time. Once spring green-up occurs, squirrels turn to the fresh, green vegetation and acceptance of zinc phosphide bait is usually poor. Columbian ground squirrels leave hibernation later than

Richardson ground squirrels, often as vegetation is greening up. The time when zinc phosphide baits can be used effectively on the Columbian in the spring is often very short to nonexistent. Mid-summer, after the vegetation has dried and seeds are being produced, is another window of time when zinc phosphide bait can be used on ground squirrels. Effectiveness is generally not as good as before green-up in the spring but it is often acceptable. Timing of the bait application to control prairie dogs is usually best in early spring before green-up or in late summer or early fall when there is little green vegetation present.

3. Conduct a bait acceptance test before application of zinc phosphide baits. This is done by applying a teaspoonful of plain, whole oats in six-inch bait spot by 25 or more active ground squirrel or prairie dog burrows in the control area. Space the test spots apart by 25 or more feet and mark each spot so they can be relocated. Check the bait spots for consumption one and two days after placement. If the oats were readily eaten the squirrels are showing good acceptance of grains. Baiting with the actual poison bait can proceed. If the oats were not consumed, do not apply the poison bait until further tests of bait acceptance show that grain is being eat quickly.

4. Prebait the entire control area with plain oats before applying the zinc phosphide baits. Do this by scattering a teaspoonful of oats by each active squirrel burrow in the control area. Prebaiting accustoms the squirrels to accepting oats as food and increases their rate of consumption. After the oats have been eaten, usually within one or two days, follow-up with application of the zinc phosphide bait. Apply the zinc phosphide bait by scattering one teaspoonful of bait near each active burrow. Prebaiting doubles the application labor but, when using an aversive chemical like zinc phosphide that requires rapid ingestion to be effective, this is a necessary step to ensure that adequate control is achieved.

Before using zinc phosphide rodenticides or any other pesticide products carefully read and understand the pesticide label. Store pesticides in locked storage when not in use. Always keep pesticides in their original, labeled container.

For more information on the proper use of zinc phosphide, other rodenticides or vertebrate pest control contact:

Montana Department of Agriculture, Vertebrate Pest Program, Box 200201, Helena, MT 59620-0201 406-444-5400. [TDD 406-444-4687]

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1-800-525-5042

ROCKY MOUNTAIN POISON CENTER:
1-800-332-3073

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